

What is claimed is:

1. An electronically controlled disc brake with self-servo effect, comprising:

a movable ramp plate (2) provided with a brake pad (3) for engagement with a brake disc (1),

a ramp bridge (4), stationary in relation to the ramp plate (2),

rollers (6) movable in ramps (2', 4') in surfaces facing each other of the ramp plate (2) and the ramp bridge (4), and

means (14-20) for applying a control force on the ramp plate (2) substantially transverse to the brake disc (1),

the arrangement being such that a movement of the ramp plate (2) in the tangential direction of the brake disc (1) will cause it to move towards or away from the brake disc,

characterized in that the means for applying the control force on the ramp plate (2) comprise a crank rod (20), pivotally attached at one of its ends to the ramp plate (2) and at its other end eccentrically to a disc (19), which is rotatably connected to the ramp bridge (4) and on which the control force can be applied.

2. A disc brake according to claim 1, wherein there are at least two ramp and roller arrangements (2', 4', 6) between the ramp plate (2) and the ramp bridge (4).

3. A disc brake according to claims 1 and 2, wherein the ramp bridge (4) is attached to a brake caliper (7) placed astraddle of the brake disc (1).

4. A disc brake according to any of the preceding claims, wherein the ramps (2', 4') are straight.

5. A disc brake according to any of claims 1-3, wherein the ramps (2', 4') are curved.

6. A disc brake according to claim 2, wherein a common roller cage is provided for the rollers (6).

7. A disc brake according to claim 1, wherein the control force is provided by an electric motor (14) electronically controlled for rotation in either direction.

8. A disc brake according to claim 7, wherein there is provided in the force transmission from the electric motor (14) a brake means (14') for keeping the outgoing shaft of the motor non-rotatable, when the motor is not energized for rotation in either of its two rotational directions.

9. A disc brake according to claim 7, wherein the rotation of the electric motor (14) is transferred to the ramp bridge disc (19) via an angle transmission (17, 19) from a motor rod (15),

10. A disc brake according to claim 9, wherein the rotation of the electric motor (14) is transferred via a bevel gear (17) on the motor rod (15) in engagement with the disc (19).

11. A disc brake according to claim 10, wherein the bevel gear (17) is axially movable on the motor rod (15) by being in splines engagement therewith.

12. A disc brake according to claim 3, wherein the position of the ramp bridge (4) in relation to the brake caliper (7) may be adjusted in the direction transverse to the brake disc (1) by means of two adjustment screws (11).

13. A disc brake according to claim 12, wherein the two adjustment screws (11) are connected by means of a chain (21) or the like for their synchronous rotation.

14. A disc brake according to claim 3, wherein a force sensing means (22-25) for transmitting a signal indicative of the tangential force is arranged between the ramp bridge (4) and the brake caliper (7).

15. A disc brake according to claim 14, wherein a force sensing means (22-25) is arranged at either side of the ramp bridge (4).

16. A disc brake according to claim 3, wherein a force sensing means for transmitting a signal indicative of the axial force is arranged between the adjustment screw (11) and the brake caliper (7).